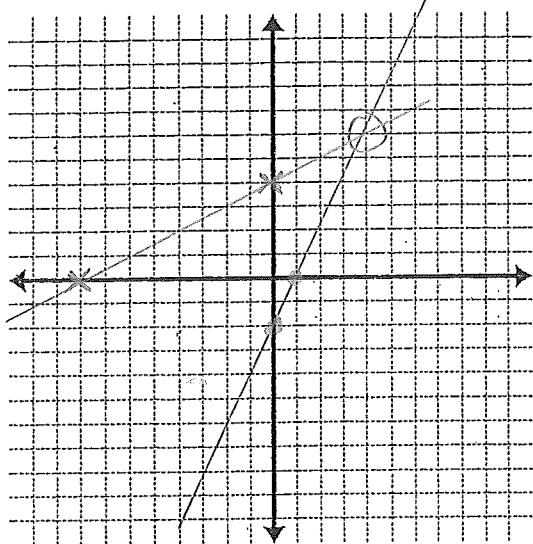


# Practice Test

① Solve by graphing.

$$2y - x = 8$$

$$y - 2x = -2$$



② Solve by addition. (Elimination)

$$3x - y = -13$$

$$+(2x + y = 3)$$

$$5x = -10$$

$$x = -2$$

$$2(-2) + y = 3$$

$$y = 3 + 4$$

$$= 7$$

$$(-2, 7)$$

③ Solve by addition or subtraction. (Elimination)

$$4x + 3y = 11$$

$$-(2x + 2y = 7)$$

$$y = 3$$

$$2x - 3 = 7$$

$$2x = 10$$

$$x = 5$$

$$(5, 3)$$

④

$$(2x + 5y = 13)3$$

$$(3x - 4y = 8)2$$

$$6x + 15y = 39$$

$$-(6x - 8y = 16)$$

$$23y = 23$$

$$y = 1$$

$$2x + 5(1) = 13$$

$$2x = 8$$

$$x = 4$$

$$(4, 1)$$

⑤ Solve by substitution.

$$x = 2y - 3$$

$$4x + 3y = 32$$

$$4(2y - 3) + 3y = 32$$

$$8y - 12 + 3y = 32$$

$$11y = 44$$

$$y = 4$$

$$(5, 4)$$

$$x = 2(4) - 3$$

$$x = 5$$

⑥

$$3x + y = 10$$

$$x - 2y = 1$$

$$x = 1 + 2y$$

$$3(1 + 2y) + y = 10$$

$$3 + 6y + y = 10$$

$$7y = 7$$

$$y = 1$$

$$(3, 1)$$

$$x - 2(1) = 1$$

$$x = 3$$

## Solving Problems

Choose two variables and write a pair of equations to solve each problem. Then use your solution to answer the question in the problem.

- ⑦ 85 vehicles with a total of 188 wheels registered for the bike/trike race. How many were bicycles and how many were tricycles?

Variables:  $B, T$

Equations:  $B + T = 85 \rightarrow B = 85 - T$   
 $2B + 3T = 188$

$$2(85 - T) + 3T = 188$$

$$170 - 2T + 3T = 188$$

$$T = 18$$

$$B = 85 - 18$$

$$= 67$$

Answer: Trikes 18 Bikes 67

- ⑨ Tapes are on sale for \$8 each. CD's are on sale for \$9 each. Rene spent \$110 of her birthday money and bought 13 sale items. How many tapes and how many CD's did she buy?

Variables:  $T, C$

Equations:  $T + C = 13 \rightarrow T = 13 - C$   
 $8T + 9C = 110$

$$8(13 - C) + 9C = 110$$

$$104 - 8C + 9C = 110$$

$$C = 6$$

$$T = 13 - 6 = 7$$

Answer: CDs 6 Tapes 7

- ⑧ A large bow takes 5 feet of ribbon and a small bow takes 3 feet. 150 feet of ribbon is available to make 36 bows. How many bows can be large and how many must be small?

Variables:  $L, S$

Equations:  $L + S = 36 \rightarrow S = 36 - L$   
 $5L + 3S = 150$

$$5L + 3(36 - L) = 150$$

$$5L + 108 - 3L = 150$$

$$2L = 42$$

$$L = 21$$

$$S = 36 - 21 = 15$$

Answer: Large 21 Small 15

- ⑩ A collection of 31 nickels and dimes has a value of \$2.65. How many nickels and how many dimes are there?

Variables:  $N, D$

Equations:  $N + D = 31 \rightarrow N = 31 - D$

$$0.05N + 0.10D = 2.65$$

$$0.05(31 - D) + 0.10D = 2.65$$

$$1.55 - 0.05D + 0.10D = 2.65$$

$$0.05D = 1.1$$

$$D = 22$$

$$N = 31 - 22 = 9$$

Answer: Dimes 22 Nickels 9